RAW SEQUENCE LISTING DATE: 10/15/2001 PATENT APPLICATION: US/09/559,013B TIME: 13:41:18

Input Set : A:\561389_1.txt

Output Set: N:\CRF3\10152001\I559013B.raw

```
3 <110> APPLICANT: Ono, Toshiro
        Nakayama, Eiichi
 6 <120> TITLE OF INVENTION: CANCER ASSOCIATED ANTIGENS AND USES
         THEREFOR
9 <130> FILE REFERENCE: L0461/7086
11 <140> CURRENT APPLICATION NUMBER: US 09/559,013B
12 <141> CURRENT FILING DATE: 2000-04-26
14 <150> PRIOR APPLICATION NUMBER: US 60/168,353
15 <151> PRIOR FILING DATE: 1999-12-01
17 <160> NUMBER OF SEQ ID NOS: 32
19 <170> SOFTWARE: FastSEQ for Windows Version 3.0
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22 <211> LENGTH: 538
23 <212> TYPE: DNA
24 <213> ORGANISM: Mus musculus
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27 agatcaaggg gaaaaggaga accccatgcg ggaactgcgc atccgcaagc tctgcctcaa
                                                                            60
                                                                           120
28 tatctgcgtc ggggagagcg gagacagact gacccgggca gccaaggtgt tggagcagct
                                                                           180
29 cacaggccag accccggtgt tctccaaagc tagatacact gtcaggtcct ttggcatccg
                                                                           240
30 gagaaatgag aagattgctg ttcactgcac agtccgcgga gccaaggcag aggaaattct.
                                                                           300
31 ggagaaaggc ctgaaggtgc gggagtatga gttgcggaaa aataacttct cggatactgg
                                                                           360
32 aaactttggt tttggaattc aagaacacat tgacctgggc atcaaatacg acccaagcat
                                                                           420
33 tgqqatctac qqcctqgact tctatgtggt gctgggtagg ccagggttca gcatcgcaga
                                                                           480
   caagaagcgc agaacaggct gcattggggc caaacacaga atcagcaagg aggaggccat
35 gcgctggttc cagcagaagt acgatggaat catccttcct ggaaaataaa cttgatcc
                                                                           538
37 <210> SEQ ID NO: 2
38 <211> LENGTH: 175
39 <212> TYPE: PRT
40 <213> ORGANISM: Mus musculus
42 <400> SEQUENCE: 2
   Asp Gln Gly Glu Lys Glu Asn Pro Met Arg Glu Leu Arg Ile Arg Lys
43
44
    Leu Cys Leu Asn Ile Cys Val Gly Glu Ser Gly Asp Arg Leu Thr Arg
45
46
                                    25
    Ala Ala Lys Val Leu Glu Gln Leu Thr Gly Gln Thr Pro Val Phe Ser
47
                                40
48
            35
    Lys Ala Arg Tyr Thr Val Arg Ser Phe Gly Ile Arg Arg Asn Glu Lys
49
                            55
50
    Ile Ala Val His Cys Thr Val Arg Gly Ala Lys Ala Glu Glu Ile Leu
51
                        70
                                             75
52
    Glu Lys Gly Leu Lys Val Arg Glu Tyr Glu Leu Arg Lys Asn Asn Phe
53
54
    Ser Asp Thr Gly Asn Phe Gly Phe Gly Ile Gln Glu His Ile Asp Leu
55
                                    105
56
                100
    Gly Ile Lys Tyr Asp Pro Ser Ile Gly Ile Tyr Gly Leu Asp Phe Tyr
                                                                  Edit and process
57
58
                                120
    Val Val Leu Gly Arg Pro Gly Phe Ser Ile Ala Asp Lys Lys Arg Arg
59
```

10/15/01

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Input Set : A:\561389_1.txt

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60
        130
                            135
61 Thr Gly Cys Ile Gly Ala Lys His Arg Ile Ser Lys Glu Glu Ala Met
                        150
                                            155
63 Arg Trp Phe Gln Gln Lys Tyr Asp Gly Ile Ile Leu Pro Gly Lys
                                        170
66 <210> SEQ ID NO: 3
67 <211> LENGTH: 1228
68 <212> TYPE: DNA
69 <213> ORGANISM: Mus musculus
71 <400> SEQUENCE: 3
72 acagccgcat cttcttgtgc agtgccagcc tcgtcccgta gacaaaatgg tgaaggtcgg
                                                                           60
                                                                          120
73 tgtgaacgga tttggccgta ttgggcgcct ggtcaccagg gctgccattt gcagtggcaa
74 agtggagatt gttgccatca acgacccctt cattgacctc aactacatgg tctacatgtt
                                                                          180
                                                                           240
75 ccaqtatqac tccactcacq qcaaattcaa cqqcacaqtc aagqccqaqa atqqqaaqct
76 tgtcatcaac gggaagccca tcaccatctt ccaggagcga gaccccacta acatcaaatg
                                                                           300
77 gggtgaggcc ggtgctgagt atgtcgtgga gtctactggt gtcttcacca ccatggagaa
                                                                           360
78 ggccggggcc cacttgaagg gtggagccaa acgggtcatc atctccgccc cttctgccga
                                                                           420
79 tgcccccatg tttgtgatgg gtgtgaacca cgagaaatat gacaactcac tcaagattgt
                                                                           480
80 cagcaatgca teetgeacea eeaactgett ageceeeetg geeaaggtea teeatgacaa
                                                                           540
81 ctttggcatt gtggaagggc tcatgaccac agtccatgcc atcactgcca cccagaagac
                                                                          600
82 tgtggatggc ccctctggaa agctgtggcg tgatggccgt ggggctgccc agaacatcat
                                                                          660
83 ccctgcatcc actggtgctg ccaaggctgt gggcaaggtc atcccagagc tgaacgggaa
                                                                          720
84 gctcactggc atggccttcc gtgttcctac ccccaatgtg tccgtcgtgg atctgacgtg
                                                                           780
85 ccgcctggag aaacctgcca agtatgatga catcaagaag gtggtgaagc aggcatctga
                                                                          840
   gggcccactg aagggcatct tgggctacac tgaggaccag gttgtctcct gcgacttcaa
                                                                          900
87
    cagcaactcc cactcttcca ccttcgatgc cggggctggc attgctctca atgacaactt
                                                                          960
   tgtcaagete attteetggt atgacaatga ataeggetae ageaacaggg tggtggaeet
                                                                         1020
89 catggcctac atggcctcca aggagtaaga aaccetggac cacccacccc agcaaggaca
                                                                         1080
90 ctgagcaaga gaggccctat cccaactcgg cccccaacac tgagcatctc cctcacaatt
                                                                         1140
91 tecateccag acceccataa taacaggagg ggeetaggga geetteetta etetettgaa
                                                                         1200
92 taccatcaat aaagttcgct gcacccac
                                                                         1228
94 <210> SEQ ID NO: 4
95 <211> LENGTH: 333
96 <212> TYPE: PRT
97 <213> ORGANISM: Mus musculus
99 <400> SEQUENCE: 4
100 Met Val Lys Val Gly Val Asn Gly Phe Gly Arg Ile Gly Arg Leu Val
101
                      5
                                         10
102
     Thr Arg Ala Ala Ile Cys Ser Gly Lys Val Glu Ile Val Ala Ile Asn
103
                                     25
104
     Asp Pro Phe Ile Asp Leu Asn Tyr Met Val Tyr Met Phe Gln Tyr Asp
105
     Ser Thr His Gly Lys Phe Asn Gly Thr Val Lys Ala Glu Asn Gly Lys
106
107
108
    Leu Val Ile Asn Gly Lys Pro Ile Thr Ile Phe Gln Glu Arg Asp Pro
109
                         70
                                             75
110
    Thr Asn Ile Lys Trp Gly Glu Ala Gly Ala Glu Tyr Val Val Glu Ser
111
                                         90
112
    Thr Gly Val Phe Thr Thr Met Glu Lys Ala Gly Ala His Leu Lys Gly
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Input Set : A:\561389_1.txt

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113
                         100
                                                105
           Gly Ala Lys Arg Val Ile Ile Ser Ala Pro Ser Ala Asp Ala Pro Met
     114
                    115
                                           120
           Phe Val Met Gly Val Asn His Glu Lys Tyr Asp Asn Ser Leu Lys Ile
                                       135
     117
           Val Ser Asn Ala Ser Cys Thr Thr Asn Cys Leu Ala Pro Leu Ala Lys
     118
     119
                                  150
                                                         155
     120
           Val Ile His Asp Asn Phe Gly Ile Val Glu Gly Leu Met Thr Thr Val
     121
                                                     170
     122
           His Ala Ile Thr Ala Thr Gln Lys Thr Val Asp Gly Pro Ser Gly Lys
     123
                         180
                                                185
     124
           Leu Trp Arg Asp Gly Arg Gly Ala Ala Gln Asn Ile Ile Pro Ala Ser
     125
                                           200
           Thr Gly Ala Ala Lys Ala Val Gly Lys Val Ile Pro Glu Leu Asn Gly
     127
                                       215
                                                              220
           Lys Leu Thr Gly Met Ala Phe Arg Val Pro Thr Pro Asn Val Ser Val
     128
     129
                                  230
                                                         235
     130
           Val Asp Leu Thr Cys Arg Leu Glu Lys Pro Ala Lys Tyr Asp Asp Ile
     131
                             245
                                                     250
           Lys Lys Val Val Lys Gln Ala Ser Glu Gly Pro Leu Lys Gly Ile Leu
     132
     133
                         260
                                                265
           Gly Tyr Thr Glu Asp Gln Val Val Ser Cys Asp Phe Asn Ser Asn Ser
     135
                    275
                                           280
           His Ser Ser Thr Phe Asp Ala Gly Ala Gly Ile Ala Leu Asn Asp Asn
     136
     137
                290
                                       295
     138
           Phe Val Lys Leu Ile Ser Trp Tyr Asp Asn Glu Tyr Gly Tyr Ser Asn
     139
                                  310
                                                         315
     140
           Arg Val Val Asp Leu Met Ala Tyr Met Ala Ser Lys Glu
     141
                             325
                                                Edit and process
     143 <210> SEQ ID NO: 5
     144 <211> LENGTH: 1705
     145 <212> TYPE: DNA
     146 <213> ORGANISM: Mus musculus
W--> 147 <220> FEATURE: <221> Unsure <222> (611)..(611) <223> n = a, c, g, or t
W--> 147 <220> FEATURE: <221> Unsure <222> (611)..(611) <223> n = a, c, g, or t
W--> 148 <220> FEATURE: <221> Unsure <222> (730)..(730) <223> n = a, c, g, or t
W--> 148 <220> FEATURE: <221> Unsure <222> (730)..(730) <223> n = a, c, g, or t
W--> 149 \langle 220 \rangle FEATURE: \langle 221 \rangle Unsure \langle 222 \rangle (746)...(746) \langle 223 \rangle n = a, c, g, or t
W--> 149 <220> FEATURE: <221> Unsure <222> (746)..(746) <223> n = a, c, g, or t
W--> 151 \langle 220 \rangle FEATURE: \langle 221 \rangle Unsure \langle 222 \rangle (755)...(755) \langle 223 \rangle n = a, c, g, or t
W--> 152 \langle 220 \rangle FEATURE: \langle 221 \rangle Unsure \langle 222 \rangle (1288)..(1288) \langle 223 \rangle n = a, c, g, or t
W--> 152 \langle 220 \rangle FEATURE: \langle 221 \rangle Unsure \langle 222 \rangle (1288)..(1288) \langle 223 \rangle n = a, c, g, or t
W--> 153 \langle 220 \rangle FEATURE: \langle 221 \rangle Unsure \langle 222 \rangle (1318)..(1318) \langle 223 \rangle n = a, c, g, or t
W--> 153 <220> FEATURE: <221> Unsure <222> (1318)..(1318) <223> n = a, c, g, or t
W--> 154 \langle 220 \rangle FEATURE: \langle 221 \rangle Unsure \langle 222 \rangle (1360)..(1360) \langle 223 \rangle n = a, c, g, or t
W--> 154 <220> FEATURE: <221> Unsure <222> (1360)..(1360) <223> n = a, c, g, or t
     156 <400> SEQUENCE: 5
     157 gccgcggtga gggaagtgga cgcgatggcc gggtccgcgt gggtgtccaa ggtctctcgg
     158 ctgctgggtg cattccacaa cacaaaacag gtgacaagag gttttgctgg tggtgttcag
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/559,013B

DATE: 10/15/2001
TIME: 13:41:18

Input Set : A:\561389_1.txt

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         acagtaactt taattootgg agatggaatt ggoocagaaa tttoagcoto agtoatgaag
         atttttgatg ctgccaaagc acctattcag tgggaggagc gcaatgtcac agcaattcaa
                                                                                 240
          ggaccaggag gaaagtggat gatccctcca gaagccaagg agtccatgga taagaacaag
                                                                                 300
     161
         atgggcttga aaggcccact aaagacccca atagccgctg gccatccatc tatgaatctg
                                                                                 360
     162
         ttgcttcgta agacatttga cctttatgcc aatgtccggc catgtgtctc aattgaaggt
                                                                                 420
     163
          tataaaaccc cttacacgga tgtaaatatc gtcaccatcc gagagaacac ggaaggagaa
                                                                                 480
     164
          tacagtggaa ttgagcatgt gatcgtigat ggggttgtgc agagcatcaa gctcatcacc
                                                                                 540
     165
          gaagaagcaa gcaagcgcat tgcagagttt gcttcgagta cgctcggaac aaccaccgga
                                                                                 600
     166
          accacgtcac ngctgtgcac aaaagctaac atcatgagga tgtcagatgg gctctttctg
                                                                                 660
W--> 167
          caaaaatgca gggaaatttg cggaagaact gtaaagactt aaatttaacg agatgtactt
                                                                                 720
     168
          ggatactgtn gtttaaatat gggtanaaag accenteeaa tttgatgtte ttgteatgee
                                                                                 780
W--> 169
          aaatttatac ggagacatcc ttagtgatct gtgtgcagga ctgattggag gtcttggggt
                                                                                 840
     170
          gactccaagt ggcaatattg gagccaacgg tgttgccatc tttgaatcgg ttcatggaac
                                                                                 900
     171
          agccccggac attgcaggca aggacatggc caaccccacg gccctcctgc ttagtgctgt
                                                                                 960
     172
          gatgatgctt cgccacatgg gactttttga ccatgcagca aaaatcgagg ctgcatgttt
                                                                                1020
     173
          tgctacaatt aaggatggaa agagcttaac aaaagatctg ggaggcaacg cgaagtgctc
                                                                                1080
     174
         tgacttcaca gaagaaatct gtcgtagagt caaagactta gattagcact cctgctggtg
                                                                                1140
     175
          gatttgctgc agtcagtcaa tcactccaaa aggataccct gtaatcctcc ttgagggcgc
                                                                                1200
          ccaccattgg tttgcttggt tcttgacaga gtacgttttt tgaatctggc cttttcttaa
                                                                                1260
     177
          caaaaccctt tgcaatggat gcacatgntg gccccaggcc tttcattcaa aaggtttncc
                                                                                 1320
W--> 178
W--> 179 ccaagtgctg gtggtattta ttgtcccgtc tgggtaaacn ttattttgta aactgtaagt
                                                                                 1380
          gaactgtatc atttatcatt gttaacccat tttacacttc aggcaaaatc attttcctca
                                                                                 1440
     180
         actgtaaata ttctgataca gaattaataa gagaagatat ttaacttttt aacaaaagcc
                                                                                1500
     181
     182 ctggattttt ggtttatgaa aaacaaactg ggaataaaac agggttttaa caatcgcaca
                                                                                 1560
                                                                                 1620
     183 agataacatt attctaatac taatgggtac aaaagaaatt tactgggaaa gttcacagca
                                                                                 1680
          aaaaaatggt atatttctta aaaatatgga aataaagtat ttgtcctata catgaattac
                                                                                 1705
     185 tattaataaa aatgtaagct ccaag
     187 <210> SEQ ID NO: 6
     188 <211> LENGTH: 233
     189 <212> TYPE: PRT
     190 <213> ORGANISM: Mus musculus
     192 <220> FEATURE:
     193 <221> NAME/KEY: UNSURE
     194 <222> LOCATION: (204)..(204)
     195 <223> OTHER INFORMATION: Xaa = any amino acid
W--> 196 <400> SEQUENCE: 6
          Ala Ala Val Arg Glu Val Asp Ala Met Ala Gly Ser Ala Trp Val Ser
     197
                                                                   15
                                               10
     198
                            5
          Lys Val Ser Arg Leu Leu Gly Ala Phe His Asn Thr Lys Gln Val Thr
     199
                                                               30
     200
                       20
          Arg Gly Phe Ala Gly Gly Val Gln Thr Val Thr Leu Ile Pro Gly Asp
     201
                                       40
     202
          Gly Ile Gly Pro Glu Ile Ser Ala Ser Val Met Lys Ile Phe Asp Ala
     203
                                                       60
                                   55
     204
          Ala Lys Ala Pro Ile Gln Trp Glu Glu Arg Asn Val Thr Ala Ile Gln
     205
                                                   75
                                                                        80
     206
                               70
          Gly Pro Gly Gly Lys Trp Met Ile Pro Pro Glu Ala Lys Glu Ser Met
     207
                                               90
     208
          Asp Lys Asn Lys Met Gly Leu Lys Gly Pro Leu Lys Thr Pro Ile Ala
     209
```

RAW SEQUENCE LISTING DATE: 10/15/2001 PATENT APPLICATION: US/09/559,013B TIME: 13:41:18

Input Set : A:\561389_1.txt

```
210
                      100
                                          105
     211 Ala Gly His Pro Ser Met Asn Leu Leu Leu Arg Lys Thr Phe Asp Leu
     212
                  115
                                      120
     213
          Tyr Ala Asn Val Arg Pro Cys Val Ser Ile Glu Gly Tyr Lys Thr Pro
     214
                                  135
     215
         Tyr Thr Asp Val Asn Ile Val Thr Ile Arq Glu Asn Thr Glu Gly Glu
     216
                              150
                                                  155
     217
         Tyr Ser Gly Ile Glu His Val Ile Val Asp Gly Val Val Gln Ser Ile
     218
                          165
                                              170
     219 Lys Leu Ile Thr Glu Glu Ala Ser Lys Arg Ile Ala Glu Phe Ala Ser
     220
                                          185
W--> 221 Ser Thr Leu Gly Thr Thr Gly Thr Thr Ser Xaa Leu Cys Thr Lys
     222
                 195
                                      200
                                                          205
     223
         Ala Asn Ile Met Arg Met Ser Asp Gly Leu Phe Leu Gln Lys Cys Arg
     224
                                  215
     225
        Glu Ile Cys Gly Arg Thr Val Lys Thr
     226
         225
                              230
     228 <210> SEQ ID NO: 7
     229 <211> LENGTH: 853
     230 <212> TYPE: DNA
    231 <213> ORGANISM: Mus musculus
    233 <400> SEQUENCE: 7
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                                                                                 60
         ctcctgcctt ccgtggacaa gaggaagcac aaagaatcat ccaggtatgg aagctgaggg
                                                                                120
     236 ttccageege aaggteacea ggetacteeg eetgggagte aaggaagaet eggaagaaca
                                                                                180
                                                                                240
    237 gcatgatgtg aaagcagagg ctttcttcca ggctggagag gggagagatg agcaaggtgc
                                                                                300
    238 acagggccag cctggagtgg gagcggtggg aacagaaggc gaaggagaag aattaaatgg
                                                                                360
    239 aggaaaaggc cactttggtc ctggtgctcc tggtcctatg ggtgatgģgg acaaggatag
     240 tggcaccagg gctggtggtg tggagcagga acaaaatgag ccagttgctg agggcactga
                                                                                420
    241 gagccaggag aatggaaatc ctgggggtag gcagatgccc ctccagggct ctaggttcgc
                                                                                480
    242 ccagcatcga ctgagggaac tggagtccat tttgcagcgc actaattcct ttgatgtccc
                                                                                540
    243 aagggaggat cttgatagac tgatggatgc ctgtgtgtcc agagtgcaga attggtttaa
                                                                                600
    244 gatcaggagg gctgcggcaa gaagaaccag gaggagggca acaccagtcc ctgaacattt
                                                                                660
         tagaggaaca ttcgagtgtc ctgcttgtcg tggagtgaga tggggagaaa gatgcccttt
                                                                                720
     246 tgcgacaccg agattttgat ttgatcacat atgccggcta tgacagccct tacttttcaa
                                                                                780
    247 gaattcagca ataaagaggt ggattcccag tatgtttgtt ccattacctc tatgattatt
                                                                                840
    248 aaaatattga tac
                                                                                853
    250 <210> SEQ ID NO: 8
    251 <211> LENGTH: 210
    252 <212> TYPE: PRT
    253 <213> ORGANISM: Mus musculus
    255 <400> SEQUENCE: 8
    256
         Met Glu Ala Glu Gly Ser Ser Arg Lys Val Thr Arg Leu Leu Arg Leu
     257
                                              10
    258 Gly Val Lys Glu Asp Ser Glu Glu Gln His Asp Val Lys Ala Glu Ala
     259
                                          25
    260 Phe Phe Gln Ala Gly Glu Gly Arg Asp Glu Gln Gly Ala Gln Gly Gln
    261
     262 Pro Gly Val Gly Ala Val Gly Thr Glu Gly Glu Gly Glu Leu Asn
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VERIFICATION SUMMARY DATE: 10/15/2001 PATENT APPLICATION: US/09/559,013B TIME: 13:41:19

Input Set : A:\561389_1.txt

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L:147 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:148 M:283 W: Missing Blank Line separator, <220> field identifier
L:148 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:149 \ M:283 \ W: Missing Blank Line separator, <220> field identifier
L:149 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:151 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:152 M:283 W: Missing Blank Line separator, <220> field identifier
L:152 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:153 M:283 W: Missing Blank Line separator, <220> field identifier
L:153 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:154 M:283 W: Missing Blank Line separator, <220> field identifier
L:154 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:167 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:5
L:167 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:5
L:167 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:167 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:169 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:5
L:169 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:5
L:169 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:169 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:178 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:5
L:178 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:5
L:178 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:178 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:179 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:5
L:179 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:5
L:179 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:5
L:179 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:5
L:196 M:283 W: Missing Blank Line separator, <400> field identifier
L:221 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:6
L:289 M:283 W: Missing Blank Line separator, <220> field identifier
L:289 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:290 M:283 W: Missing Blank Line separator, <220> field identifier
L:290 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:291 M:283 W: Missing Blank Line separator, <220> field identifier
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L:293 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:294 M:283 W: Missing Blank Line separator, <220> field identifier
L:294 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:295 \ M:283 \ W: Missing Blank Line separator, <220> field identifier
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L:297 M:283 W: Missing Blank Line separator, <220> field identifier
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VERIFICATION SUMMARY PATENT APPLICATION: US/09/559,013B DATE: 10/15/2001 TIME: 13:41:19

Input Set : A:\561389_1.txt
Output Set: N:\CRF3\10152001\I559013B.raw

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L:299 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:301 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:302 M:283 W: Missing Blank Line separator, <220> field identifier
L:302 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:303 M:283 W: Missing Blank Line separator, <220> field identifier
L:303 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:304 M:283 W: Missing Blank Line separator, <220> field identifier
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L:306 M:283 W: Missing Blank Line separator, <220> field identifier
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L:307 M:283 W: Missing Blank Line separator, <220> field identifier
L:307 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:309 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:310 M:283 W: Missing Blank Line separator, <220> field identifier
L:310 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:311 M:283 W: Missing Blank Line separator, <220> field identifier
L:311 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:312 M:283 W: Missing Blank Line separator, <220> field identifier
L:312 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:313 M:283 W: Missing Blank Line separator, <220> field identifier
L:313 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:314 M:283 W: Missing Blank Line separator, <220> field identifier
L:314 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:315 M:283 W: Missing Blank Line separator, <220> field identifier
L:315 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:317 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:318 M:283 W: Missing Blank Line separator, <220> field identifier
L:318 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:319 M:283 W: Missing Blank Line separator, <220> field identifier
L:319 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:320 M:283 W: Missing Blank Line separator, <220> field identifier
L:320 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:321 M:283 W: Missing Blank Line separator, <220> field identifier
L:321 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:322 M:283 W: Missing Blank Line separator, <220> field identifier
L:322 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:323 M:283 W: Missing Blank Line separator, <220> field identifier
L:323 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:325 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:326 M:283 W: Missing Blank Line separator, <220> field identifier
L:326 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:327 M:283 W: Missing Blank Line separator, <220> field identifier
L:327 M:256 W: Invalid Numeric Header Field, <220> has non-blank data
L:339 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:9
L:339 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:9
L:339 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:9
```

VERIFICATION SUMMARY DATE: 10/15/2001 PATENT APPLICATION: US/09/559,013B TIME: 13:41:19

Input Set : A:\561389_1.txt

Output Set: N:\CRF3\10152001\I559013B.raw

L:339 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 L:340 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:9 L:340 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:9 L:340 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:9 L:340 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 L:341 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:9 L:341 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:9 L:341 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:9 L:341 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 L:342 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:9 L:342 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:9 L:342 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:9 L:342 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 L:343 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:9 L:343 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:9 L:343 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:9 L:343 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 L:344 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:9 L:344 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:9 L:344 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:9 L:344 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9 L:535 M:283 W: Missing Blank Line separator, <220> field identifier L:535 M:256 W: Invalid Numeric Header Field, <220> has non-blank data L:536 M:283 W: Missing Blank Line separator, <400> field identifier L:538 M:258 W: Mandatory Feature missing, <221> not found for SEQ ID#:15 L:538 M:258 W: Mandatory Feature missing, <222> not found for SEQ ID#:15 L:538 M:258 W: Mandatory Feature missing, <223> not found for SEQ ID#:15 L:538 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:15

STATISTICS SUMMARY DATE: 10/15/2001 PATENT APPLICATION: US/09/559,013B TIME: 13:41:19

Input Set : A:\561389_1.txt

Output Set: N:\CRF3\10152001\I559013B.raw

Application Serial Number: US/09/559,013B

Alpha or Numeric: Numeric

Application Class:

Application File Date: 04-26-2000

Art Unit: 1642

Software Application: FastSeq
Total Number of Sequences: 32
Total Nucleotides: 11930
Total Amino Acids: 2684
Number of Errors: 0
Number of Warnings: 125
Number of Corrections: 0

MESSAGE SUMMARY

256 W: 42 (Invalid Numeric Header Field)
258 W: 33 (Mandatory Feature missing)
283 W: 38 (Missing Blank Line separator)
341 W: 12 ((46) "n" or "Xaa" used)